

WHAT IS CLAIMED IS:

1. A modular wireless device comprising:
 - a shell that contains non-wireless components, at least of one of which is system software; and
 - a cartridge that contains wireless components, at least one of which is call-processing software; and
 - a means for the shell and cartridge to exchange information; and
 - a means for the modular wireless device to configure its operation based on said information.
2. The modular wireless device as recited in claim 1 wherein the cartridge is removably connected to the shell.
3. The modular wireless device as recited in claim 1 wherein the shell contains a keypad, display, and microprocessor and the cartridge contains baseband and RF components.
4. The modular wireless device as recited in claim 2 wherein:
 - the cartridge further includes replacement software; and
 - the modular wireless device further includes means for transferring the replacement software to the shell to upgrade, augment, or replace the system software.

5. The modular wireless device as recited in claim 4 wherein;
the system software contains a first version number; and
the replacement software contains a second version number; and
wherein the cartridge and shell have a means to exchange the first and second
version numbers to determine whether the system software should be replaced.
6. The modular wireless device as recited in claim 4 wherein:
the system software contains a first operator identification; and
the replacement software contains a second operator identification; and
wherein the cartridge and shell exchange the first and second operator
identifications to determine whether the system software should be replaced.
7. The modular wireless device as recited in claim 1 wherein:
the system software includes a software application and an operating system; and
the system software has means for the software application to register with the
operating system for a wireless service; and
the modular wireless device further includes means for the cartridge to
communicate wireless service availability to the operating system; and
the operating system has means to notify the software application of the
availability of a wireless service in the cartridge,
whereby the software application can configure its operation according to the
wireless services available in the cartridge.

8. The modular wireless device as recited in claim 7 wherein the operating system maintains a service array that specifies which wireless services it is able to support based on the shell's hardware characteristics.

9. The modular wireless device as recited in claim 8 wherein the operating system has means for expanding the service array to incorporate new wireless services.

10. The modular wireless device as recited in claim 8 wherein:
the shell has means of obtaining the wireless services supported by the cartridge;
and
the shell has means of using the service array to determine which wireless services in the cartridge the shell is able to use.

11. The modular wireless device as recited in claim 2 wherein:
the shell further includes a first memory storage bin for storing subscriber information; and
the cartridge further includes a second memory storage bin for storing subscriber information; and
the modular wireless device further includes means for subscriber information to be exchanged between the shell and cartridge.

12. The modular wireless device as recited in claim 11 wherein at least one of the memory storage bins is a SIM card.

13. The modular wireless device as recited in claim 11 wherein the information exchanged is used to determine which memory storage bins contain subscriber information.

14. The modular wireless device as recited in claim 11 further including a means for determining whether to use the subscriber information in the shell or the subscriber information in the cartridge when both the first and second memory storage bins contain subscriber information.

15. The modular wireless device as recited in claim 11 further including a means for notifying the user which subscriber information will be used.

16. The modular wireless device as recited in claim 11 wherein the cartridge is directly connected to the first memory storage bin in the shell.

17. The modular wireless device as recited in claim 11 wherein the first memory storage bin in the shell has means to store subscriber information related to more than one air-interface standard.

18. The modular wireless device as recited in claim 17 wherein the subscriber information in the first memory storage bin is typed according to the air-interface standard it corresponds to.

19. The modular wireless device as recited in claim 11 wherein the cartridge has a means for obtaining the subscriber information in the shell's memory storage bin and communicating this subscriber information to a wireless network.

20. The modular wireless device as recited in claim 19 wherein the subscriber information contains data a wireless network needs to forward calls from a first phone number to a second phone number.

21. The modular wireless device as recited in claim 20 wherein the data is an executable that the wireless network can run to forward calls from a first phone number to a second phone number.

22. The modular wireless device as recited in claim 12 wherein both memory storage bins are SIM cards; and

the SIM cards include user data; and

the modular wireless device includes means for synchronizing the user data in the SIM cards.

23. The modular wireless device as recited in claim 2 further including:

a locking mechanism in the shell that prevents the shell from accessing the wireless services in the cartridge; and

a means for unlocking the locking mechanism.

24. The modular wireless device as recited in claim 23 wherein the means for unlocking the locking mechanism consists of a user entering a pass code into the shell.

25. The modular wireless device as recited in claim 23 wherein the means for unlocking the locking mechanism consists of the cartridge communicating a pass code to the shell.

26. The modular wireless device as recited in claim 23 wherein the locking mechanism is automatically activated when the cartridge is removed from the shell.

27. The modular wireless device as recited in claim 2 further including:
a locking mechanism in the cartridge that disables wireless services in the cartridge; and
a means for unlocking the locking mechanism.

28. The modular wireless device as recited in claim 27 wherein the means for unlocking the locking mechanism consists of the shell communicating a pass code to the cartridge.

29. The modular wireless device as recited in claim 27 wherein the means for unlocking the locking mechanism consists of a wireless network communicating a pass code to the cartridge.

30. The modular wireless device as recited in claim 27 wherein the locking mechanism is automatically activated when the cartridge is removed from the shell.
31. The modular wireless device as recited in claim 2 wherein:
the modular wireless device contains means for exchanging information related to communication preference values between the shell and cartridge,
whereby the cartridge can obtain communication preference values from the user.
32. The modular wireless device as recited in claim 31 wherein the information includes the format of the desired communication preference value whereby the shell can tell the user how to enter a communication preference value.
33. The modular wireless device as recited in claim 32 wherein the format enables the cartridge to communicate to the shell that the communication preference value is optional.
34. The modular wireless device as recited in claim 32 wherein the format enables the cartridge to communicate to the shell that the communication preference value should be encrypted.

35. The modular wireless device as recited in claim 31 wherein the shell has means for communicating a communication preference value to the cartridge once the communications preference value is entered by the user.

36. The modular wireless device as recited in claim 1 wherein the cartridge and shell have means to automatically exchange information when the cartridge is inserted into the shell.

37. A modular wireless device cartridge comprising:

a cartridge that contains wireless components, at least one of which is call-processing software and another which is an interface configured for removable connection to a shell that contains non-wireless components, at least one of which is system software; and

a means for the cartridge to exchange information with said shell and configure its operation based on said information.

38. A modular wireless device comprising:

a shell that contains non-wireless components, at least one of which is system software and another of which is an interface configured for connection to a removable cartridge that contains wireless components, at least one of which is call-processing software; and

a means for the shell to exchange information with said cartridge and configure its operation based on said information.

39. The modular wireless device as recited in claim 7 wherein the cartridge includes a software-defined radio.

40. The modular wireless device as recited in claim 31 wherein the cartridge includes a software-defined radio.